

February 26, 2007



U.S. Department  
of Transportation

400 Seventh Street, S.W.  
Washington, D.C. 20590

**Pipeline and Hazardous  
Materials Safety Administration**

DOT-SP 14393

EXPIRATION DATE: January 31, 2009
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(FOR RENEWAL, SEE 49 CFR § 107.109)

1. GRANTEE: Hamilton Sundstrand  
Windsor Locks, CT
2. PURPOSE AND LIMITATIONS:
  - a. This special permit authorizes the manufacture, marking, sale and use of a non-DOT specification cylinder, which is integrated into a supplemental cooling unit (SCU) designated for use as an aircraft system, for the transportation in commerce of the materials authorized by this special permit. This special permit provides no relief from the Hazardous Materials Regulations (HMR) other than as specifically stated herein.
  - b. The safety analyses performed in development of this special permit only considered the hazards and risks associated with transportation in commerce. The safety analyses did not consider the hazards and risks associated with use as a component of a transport vehicle or other device, or other uses not associated with transportation in commerce.
3. REGULATORY SYSTEM AFFECTED: 49 CFR Parts 106, 107 and 171-180.
4. REGULATIONS FROM WHICH EXEMPTED: 49 CFR §§ 173.306(e) (iii), (iv), (v) and (vi); 173.307(a)(4)(iv), 173.301, 173.304 and 180.205 (a) in that a non-DOT specification cylinder is not authorized except as prescribed herein.
5. BASIS: This special permit is based on the application of Hamilton Sundstrand dated August 21, 2006 and additional information dated November 20, 2006, December 6, 2006 and

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December 22, 2006, submitted in accordance with § 107.105 and the public proceeding thereon.

6. HAZARDOUS MATERIALS (49 CFR § 172.101):

Hazardous Material Description			
Proper Shipping Name	Hazard Class/ Division	Identification Number	Packing Group
1,1,1,2-Tetrafluoroethane or Refrigerant gas R 134a	2.2	3159	N/A
Refrigerating machines, containing non-flammable, non-toxic, liquefied gas or ammonia solution (UN2672)	2.2	2857	N/A

7. SAFETY CONTROL MEASURES:

a. PACKAGING - Packaging prescribed is a non-DOT specification 6061-T6 seamless aluminum cylinder which is integrated into a supplemental cooling unit (SCU) designated for use as an aircraft system. The non-DOT specification cylinder is made in accordance with Hamilton-Sundstrand specifications and drawings on file with the Office of Hazardous Material Special Permits and Approvals (OHMSPA). Each cylinder has a maximum water capacity of 300 cubic inches and a maximum service pressure of 410 psig. The cylinder has two openings (one at each end), each of which is equipped with an electron-beam (EB) welded boss fitting.

b. OPERATIONAL CONTROLS -

(1) The SCU must be fitted with a pressure relief device (PRD) as described in the application and drawings on file with OHMSPA. The pressure relief device is a thermal fuse that consists of a stainless steel outer body with an inner fusible alloy, and will function at 212°F.

(2) The design qualification testing of the cylinder must be completed after all welding and heat exposure to the cylinder to ensure that the minimum yielding strength of the cylinder has not been compromised.

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(3) Each cylinder must have a safety factor of 3.0. The safety factor is the ratio of the burst pressure to the service pressure.

(4) Cylinder will contain no more than 7 lbs of HFC-134a (Tetraflouroethane).

(5) The non-DOT specification cylinder is only authorized to be transported as part of the SCU.

(6) The SCU shipping package is a skidded, plywood cleated box. The cleated box is in the form of a wooden "box within a box". The outer box retains an inner box which contains the refrigeration unit. The inner box is surrounded by semi-rigid foam. The plywood base of the inner box bolts to the refrigeration unit and sets into the recessed cushioning material (semi-rigid foam) within the outer box.

c. TESTING - Each cylinder must be maintained and requalified in accordance with the regulations established by the Air Transport Association (ATA) Maintenance Steering Group-3 and approved by the Federal Aviation Administration as part of the aircraft maintenance schedule.

8. SPECIAL PROVISIONS:

a. Prior to the successful completion of the required cycling test, Hamilton-Sundstrand is authorized to ship a maximum of 28 SCUs. Prior to shipment, Hamilton-Sundstrand must provide OHMSPA with the serial number of each cylinder that is shipped. Upon the successful completion of the cycling test all cylinders shipped within the interim period may remain in service. However, if the cycling test is not passed then all cylinders shipped during this interim period must be recalled.

b. In accordance with the provisions of Paragraph (b) of § 173.22a, persons may use the packaging authorized by this special permit for the transportation of the hazardous materials specified in paragraph 6, only in conformance with the terms of this special permit.

c. A person who is not a holder of this special permit, but receives a package covered by this special permit, may reoffer it for transportation provided no modification or change is made to the package and it is offered for

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transportation in conformance with this special permit and the HMR.

d. A current copy of this special permit must be maintained at each facility where the package is offered or reoffered for transportation.

e. Each packaging manufactured under the authority of this special permit must be either (1) marked with the name of the manufacturer and location (city and state) of the facility at which it is manufactured or (2) marked with a registration symbol designated by the Office of Hazardous Materials Special Permits and Approvals for a specific manufacturing facility.

f. A current copy of this special permit must be maintained at each facility where the package is manufactured under this special permit. It must be made available to a DOT representative upon request.

g. Each cylinder must be marked in accordance with the requirements of § 178.35(f) except that "DOT-SP 14393" must be used in lieu of the DOT specification and be followed immediately by the service pressure.

9. MODES OF TRANSPORTATION AUTHORIZED: Motor vehicle, rail freight, cargo vessel, and cargo aircraft only.
10. MODAL REQUIREMENTS: A current copy of this special permit must be carried aboard each cargo vessel, aircraft or motor vehicle used to transport packages covered by this special permit. The shipper must furnish a copy of this special permit to the air carrier before or at the time the shipment is tendered.
11. COMPLIANCE: Failure by a person to comply with any of the following may result in suspension or revocation of this special permit and penalties prescribed by the Federal hazardous materials transportation law, 49 U.S.C. 5101 et seq:
  - o All terms and conditions prescribed in this special permit and the Hazardous Materials Regulations, 49 CFR Parts 171-180.
  - o Persons operating under the terms of this special permit must comply with the security plan requirement in Subpart I of Part 172 of the HMR, when applicable.

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- o Registration required by § 107.601 et seq., when applicable.

Each "Hazmat employee", as defined in § 171.8, who performs a function subject to this special permit must receive training on the requirements and conditions of this special permit in addition to the training required by §§ 172.700 through 172.704.

No person may use or apply this special permit, including display of its number, when this special permit has expired or is otherwise no longer in effect.

Under Title VII of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)—"The Hazardous Materials Safety and Security Reauthorization Act of 2005" (Pub. L. 109-59), 119 Stat. 1144 (August 10, 2005), amended the Federal hazardous materials transportation law by changing the term "exemption" to "special permit" and authorizes a special permit to be granted up to two years for new special permits and up to four years for renewals.

12. REPORTING REQUIREMENTS: Shipments or operations conducted under this special permit are subject to the Hazardous Materials Incident Reporting requirements specified in 49 CFR §§ 171.15 - Immediate notice of certain hazardous materials incidents, and 171.16 - Detailed hazardous materials incident reports. In addition, the grantee(s) of this special permit must notify the Associate Administrator for Hazardous Materials Safety -- OHMEA, in writing, of any incident involving a package, shipment or operation conducted under terms of this special permit.

Issued in Washington, D.C.:



for Bob Richard  
Deputy Associate Administrator  
for Hazardous Materials Safety

Address all inquiries to: Associate Administrator for Hazardous Materials Safety, Pipeline and Hazardous Materials Safety Administration, Department of Transportation, Washington, D.C. 20590. Attention: PHH-31.

Copies of this special permit may be obtained by accessing the Hazardous Materials Safety Homepage at [http://hazmat.dot.gov/sp\\_app/special\\_permits/spec\\_perm\\_index.htm](http://hazmat.dot.gov/sp_app/special_permits/spec_perm_index.htm) Photo reproductions and legible reductions of this special permit are permitted. Any alteration of this special permit is prohibited.

PO: BM/AM